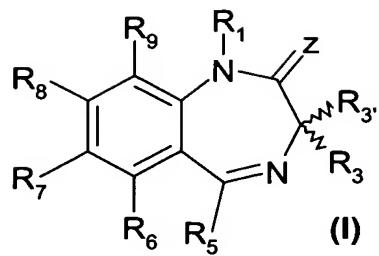


CLAIMS

1. Use of at least one phosphodiesterase 2 inhibitor for preparing a pharmaceutical composition for treating pathologies related to the central nervous system (central and peripheral), in particular central.
5
2. Use according to the previous claim, wherein the pathologies are due to a deregulation of the function of a neurotransmitter or to a deficiency in the release of a neurotransmitter, in particular of dopamine.
10
3. Use according to any one of the previous claims, wherein the pathologies are selected in the group consisting of depression, schizophrenia, anxiety, bipolar disorder, attention deficit disorders, sleep disorders, obsessive compulsive disorder, fibromyalgia, Tourette's syndrome, pharmacodependence, epilepsy, Alzheimer's disease, Parkinson's
15 disease, amyotrophic lateral sclerosis, multiple sclerosis, obesity and Lewy body dementia.
4. Use according to claim 1, wherein the pathologies involve the peripheral nervous system and the peripheral organs, in particular pathologies of the type reduced natriuria, acute renal failure, hepatic dysfunction, acute hepatic failure, in particular due to age.
20
5. Use according to claim 1, wherein the pathologies are due to or involve dysfunctions of prolactin secretion, in particular selected in the group consisting of restless legs syndrome, rheumatal, allergic or auto-inflammatory disorders, more particularly selected in the group consisting of rheumatoid arthritis, rhinitis or asthma.
25
6. Use according to claim 1, wherein the pathologies are selected in the group consisting of anxiety, depression and schizophrenia.
- 30 7. Use according to any one of the previous claims, wherein the PDE2 inhibitors are selected in the group consisting of 1,4-benzodiazepine derivatives.
8. Compounds represented by general formula (I):



in which :

- 5 . Z represents an oxygen or sulfur atom or a NR_2 group,
- . R_1 is the hydrogen atom, a ($\text{C}_1\text{-}\text{C}_6$) alkyl group, a ($\text{C}_6\text{-}\text{C}_{18}$)aryl group or a ($\text{C}_1\text{-}\text{C}_6$)alkyl($\text{C}_6\text{-}\text{C}_{18}$)aryl or ($\text{C}_6\text{-}\text{C}_{18}$)aryl($\text{C}_1\text{-}\text{C}_4$)alkyl group,
- 10 . R_2 is a hydrogen atom, a ($\text{C}_1\text{-}\text{C}_6$) alkyl group, a ($\text{C}_6\text{-}\text{C}_{18}$)aryl group or a ($\text{C}_1\text{-}\text{C}_6$)alkyl($\text{C}_6\text{-}\text{C}_{18}$)aryl or ($\text{C}_6\text{-}\text{C}_{18}$)aryl($\text{C}_1\text{-}\text{C}_4$)alkyl group,
- 15 R_1 and R_2 taken together can optionally form a linear or branched hydrocarbon chain having from 2 to 6 carbon atoms, possibly containing one or several other double bonds and/or possibly interrupted by an oxygen, sulfur or nitrogen atom,
- . R_3 and R_3' , which are the same or different, represent the hydrogen atom, a ($\text{C}_1\text{-}\text{C}_{12}$) alkyl, ($\text{C}_3\text{-}\text{C}_6$) cycloalkyl, ($\text{C}_6\text{-}\text{C}_{18}$) aryl, ($\text{C}_6\text{-}\text{C}_{18}$)aryl($\text{C}_1\text{-}\text{C}_4$)alkyl, ($\text{C}_1\text{-}\text{C}_{12}$)alkyl($\text{C}_6\text{-}\text{C}_{18}$)aryl group or a ($\text{C}_5\text{-}\text{C}_{18}$) heterocycle, aromatic or not, containing 1 to 3 heteroatoms,
- 20 a NO_2 , CF_3 , CN , $\text{NR}'\text{R}''$, SR' , OR' , COOR' , $\text{CONR}'\text{R}''$ or $\text{NHCOR}'\text{R}''$ group, R' and R'' , independently of each another, being selected in the group consisting of the hydrogen atom, a ($\text{C}_1\text{-}\text{C}_6$) alkyl, ($\text{C}_3\text{-}\text{C}_6$) cycloalkyl, ($\text{C}_6\text{-}\text{C}_{12}$) aryl group and a ($\text{C}_5\text{-}\text{C}_{12}$) heterocycle, aromatic or not, containing 1 to 3 heteroatoms;
- 25 . R_5 represents a phenyl group substituted at least in position 3, a naphthyl group, a ($\text{C}_5\text{-}\text{C}_{18}$) heterocycle, aromatic or not, containing 1 to 3 heteroatoms, selected in the group consisting of the pyridyl, isoquinolyl, quinolyl and piperazinyl group, provided that when R_5 is a naphthyl group substituted in position 6, then the latter is not attached to

the rest of the molecule in position 2, or when R₅ is a pyridyl group, then it is not attached to the rest of the molecule in position 4, or when R₅ is a tetrahydro 1,2,3,4-isoquinolyl group, then it is not attached to the rest of the molecule in position 2,

when R₅ represents a phenyl group substituted at least in position 3, said substituent

5 being selected in the group consisting of : an alkyl, halogenoalkyl, cycloalkyl, alkenyl, alkynyl, aralkyl, aryl, heterocycle, heterocycloalkyl group, a OH, =O, NO₂, NH₂, CN, CF₃, COR', COOR', (C₁-C₆)alkoxy, (di)(C₁-C₆)alkylamino, NHCOR', CONR'R'' group, in which R' and R'' are such as defined hereinabove, CHO, CONH₂, phenyl optionally substituted, in particular by an acetyl group, by a halogen atom (Cl), by a

10 CONH₂ group or by a CN, prop-1-ynyl optionally substituted, in particular by a benzyloxy or tert-butyl carbamate, hex-1-ynyl optionally substituted, in particular by a CN or NH₂, pentyl optionally substituted, in particular by a CONH₂, hexyl, piperidinyl group optionally substituted, in particuar by a prop-1-ynyl, benzylaminomethyl, acetamide (CH₃CONH), aminomethyl, NH₂CS-, 4-phenyl-1, 3-thiazol-2-yl, -

15 CONHBenzyl, -COOEthyl, -CONHiPropyl, -CONH-(CH₂)_n-CONH₂ (n representing a whole number from 1 to 6), -CONR'R'' group, with R' and R'', which are the same or different, representing a C₁-C₆ alkyl group or a hydrogen atom, -(4-benzylpyperazin-1-yl)carbonyl, -CONH-(CH₂)_n-phenyl (n representing a whole number from 1 to 6), imidazolyl, piperazinyl optionally substituted, in particular by a phenyl group,

20 . R₇ and R₈, independently of each other, are selected in the group consisting of the hydrogen atom, a halogen atom or a OR₁₀, group in which R₁₀ represents a hydrogen atom, a (C₁-C₆) alkyl, (C₃-C₆) cycloalkyl, (C₆-C₁₂) aryl group, or a (C₅-C₁₂) heterocycle, aromatic or not, containing 1 to 3 heteroatoms, at least one of the groups R₇ and R₈

25 representing a OR₁₀ group such as defined hereinabove,

. R₆ and R₉, independently of each other, are selected in the group consisting of the hydrogen atom, a halogen atom, an alkyl, cycloalkyl, alkenyl, alkynyl group, an aryl, aralkyl, heterocycle, heterocycloalkyl group and a OR₁₀ group, R₁₀ being such as defined

30 hereinabove,

the alkyl, cycloalkyl, alkenyl, alkynyl, aralkyl, aryl, phenyl, naphthyl, heterocycle, heterocycloalkyl group or the hydrocarbon chain defined hereinabove being optionally

substituted by one or more substituents, which are the same or different, preferably selected in the group consisting of a halogen atom, an alkyl, halogenoalkyl, cycloalkyl, alkenyl, alkynyl, aralkyl, aryl, heterocycle, heterocycloalkyl group, a OH, =O, NO₂, NH₂, CN, CF₃, COR', COOR', (C₁-C₆)alkoxy, (di)(C₁-C₆)alkylamino, NHCOR' and CONR'R'' group, in which R' and R'' are such as defined hereinabove, the substituents also being optionally substituted,

and the salts of compounds represented by formula (I),

10 with the exception of compounds represented by formula (I) in which .

- R1 is an alkyl group, R3 and R'3 are hydrogen atoms, R6 and R9 are hydrogen atoms, R5 is a phenyl group substituted at least in position 3 by a methoxy group,
- R1 is an alkyl group or a hydrogen atom, R3 and R'3 are hydrogen atoms, R6 and R9 are hydrogen atoms, R5 is a phenyl group substituted only in position 3 by a chlorine or bromine atom,
- R1 is an alkyl group, R3 and R'3 are hydrogen atoms, R6 and R9 are hydrogen atoms, R5 is a phenyl group substituted at least in position 3 by a CH₂OH group,
- R1 is a hydrogen atom, R3 and R'3 are hydrogen atoms, R6 and R9 are hydrogen atoms, R5 is a phenyl group substituted only in position 3 by a CF₃ group,
- R1 is an alkyl group, R3 and R'3 are hydrogen atoms, R6 and R9 are hydrogen atoms, R5 is a phenyl group substituted in positions 3 and 5 by a CF₃ group,
- R1 is an alkyl group, R3 and R'3 are hydrogen atoms, R6 and R9 are hydrogen atoms, R7 and R8 are methoxy groups, R5 is a phenyl group substituted in positions 3 by a phenyl group,
- R1 is an alkyl group, R3 and R'3 are hydrogen atoms, R6 and R9 are hydrogen atoms, R7 and R8 are methoxy groups, R5 is a phenyl group substituted in positions 3 by a phenylethynyl group.

9. Compounds represented by formula (I) according to claim 8, in which R₅ is a phenyl group substituted at least in position 3.

10. Compounds represented by formula (I) according to the previous claim, in which the substituents can be selected in the group consisting of : CHO, CN, CONH₂, NO₂, CF₃, NH₂, halogen atom (Cl), (C₁-C₆) alkyl, phenyl optionally substituted, in particular by an acetyl group, by a halogen atom (Cl), by a CONH₂ group or by a CN, prop-1-ynyl group optionally substituted, in particular by a benzyloxy or tert-butyl carbamate, hex-1-ynyl group optionally substituted, in particular by a CN or NH₂ group, pentyl optionally substituted, in particular by a CONH₂, hexyl, piperidinyl optionally substituted, in particular by a prop-1-ynyl, benzylaminomethyl, acetamide (CH₃CONH), aminomethyl, NH₂CS-, 4-phenyl-1, 3-thiazol-2-yl, -CONHBenzyl, -COOEthyl, -CONHiPropyl, -CONH-(CH₂)_n-CONH₂ (n representing a whole number from 1 to 6), -CONR'R'' group, with R' and R'', which are the same or different, representing a C₁ to C₆ alkyl group or a hydrogen atom, -(4-benzylpyperazin-1-yl)carbonyl, -CONH-(CH₂)_n-phenyl (n representing a whole number from 1 to 6), imidazolyl, piperazinyl group optionally substituted, in particular by a phenyl group.
- 15 11. Compounds represented by formula (I) according to any one of claims 8 to 10, in which R₅ is a phenyl group substituted in positions 3 and 4, in particular by a hydrocarbon chain possibly containing at least one heteroatom, such as oxygen, like the methylenedioxy (-O-CH₂-O-) chain forming a ring with the phenyl group to which it is attached.
- 20 12. Compounds represented by formula (I) according to claim 8, in which R₅ is the 3-pyridyl, 4-isoquinolyl, piperazinyl group optionally substituted, in particular in position 4 by an aryl group, such as phenyl.
- 25 13. Compounds represented by formula (I) according to claim 8, in which Z represents a sulfur atom or -NR₂, with in particular R₂ forming a ring of the imidazole type with R₁.
- 30 14. Compounds represented by formula (I) according to any one of claims 8, 9 or 10, in which :
- Z is the oxygen atom, and/or

- R₇ and R₈, independently of each other, represent a OR₁₀ group in which R₁₀ is a (C₁-C₆) alkyl group, preferably an ethyl or methyl group, advantageously methyl, and/or
- R₇ and R₈ each represent an ethoxy or methoxy group, advantageously methoxy, or one represents a hydrogen atom and the other an ethoxy or methoxy group, advantageously methoxy, and/or
- R₆ and R₉, which are the same or different, represent the hydrogen atom, a halogen atom, a phenyl group, a (C₁-C₆) alkyl group or a OR₁₀ group in which R₁₀ is a (C₁-C₆) alkyl group, preferably an ethyl or methyl group, and/or
- R₃ and R_{3'}, which are the same or different, represent a hydrogen atom, and/or
- R₁ is a (C₁-C₆) alkyl, (C₆-C₁₈) aryl group, such as phenyl, (C₆-C₁₈)aryl(C₁-C₄)alkyl group such as benzyl optionally substituted, or (C₁-C₁₂)alkyl(C₆-C₁₈)aryl group.

15. Compounds represented by formula (I) according to any one of claims 8 to 14, in which R₁ represents a hydrogen atom or a (C₁-C₃) alkyl, (C₆-C₁₈) aryl (for example : phenyl), (C₆-C₁₈)aryl(C₁-C₄)alkyl (for example : benzyl), (C₁-C₁₂)alkyl(C₆-C₁₈)aryl group, said group being optionally substituted.

20. Compounds represented by formula (I) according to any one of claims 8 to 15, in which R₅ is a phenyl group substituted by:

- (h) one or more OR' groups, in particular methoxy or ethoxy, or
- (i) a COR' group, in particular acetyl or aldehyde, or
- (j) a CONR'R'' group, in particular CONH₂, or
- (k) a CN group, or
- (l) a trifluoromethyl group, or
- (m) an alkyl group, for example methyl, or alkynyl group, for example hexynyl or propynyl, or
- (n) an aryl or heterocycle group, in particular phenyl, furyl, pyridyl, piperidine, thiazole or thieryl, said aryl or heterocycle itself being

optionally substituted by one or more groups preferably selected from groups (a)-(g).

17. Compounds represented by formula (I) according to any one of claims 8 to 16, in
5 which at least one group R₇ or R₈ represents OR₁₀ where R₁₀ represents a (C₁-C₆) alkyl or (C₃-C₆) cycloalkyl group.

18. Compounds represented by formula (I) according to claim 17, in which at least one of the groups R₇ and R₈, advantageously both, represents a methoxy group.

10

19. Compounds selected from the following compounds:

3-(7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile, **3a**

7,8-dimethoxy-[5-(3-trifluoromethyl)phenyl]-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one,

15 **3d**

3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)-benzonitrile,
4a

3-[1-(4-chlorobenzyl)-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl]-
benzonitrile, **4c**

20 3-[1-(3,4-chlorobenzyl)-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl]-
benzonitrile, **4d**

3-[7,8-dimethoxy-1-(4-methoxybenzyl)-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl]-
benzonitrile, **4e**

25 3-[1-(3-chlorobenzyl)-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl]-
benzonitrile, **4f**

3-{7,8-dimethoxy-2-oxo-1-[3-(trifluoromethyl)benzyl]-2,3-dihydro-1*H*-1,4-
benzodiazepin-5-yl]-benzonitrile, **4g**

3-[1-(2-chlorobenzyl)-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl]-
benzonitrile, **4h**

30 3-{7,8-dimethoxy-2-oxo-1-[4-(trifluoromethyl)benzyl]-2,3-dihydro-1*H*-1,4-
benzodiazepin-5-yl]-benzonitrile, **4i**

3-[7,8-dimethoxy-2-oxo-1-(2-phenylethyl)-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl]-
benzonitrile, **4j**

- 3-(1-ethyl-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile,
4k
- 3-(7,8-dimethoxy-1-propyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile,
4l
- 5 3-(1-benzyl-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile,
4m
- ethyl[5-(3-cyanophenyl)-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-1-
yl]acetate, **4n**
- 7,8-dimethoxy-1-methyl-[5-(3-trifluoromethyl)phenyl]-1,3-dihydro-2*H*-1,4-
10 benzodiazepin-2-one, **4p**
- 7,8-dimethoxy-1-ethyl-5-[3-(trifluoromethyl)phenyl]-1,3-dihydro-2*H*-1,4-
benzodiazepin-2-one, **4q**
- 5-[3-(trifluoromethyl)phenyl]-7,8-dimethoxy-1-*n*-propyl-1,3-dihydro-1,4-
benzodiazepin-2-one, **4r**
- 15 1-benzyl-5-[3-(trifluoromethyl)phenyl]-7,8-dimethoxy-1,3-dihydro-1,4-benzodiazepin-
2-one, **4s**
- 3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)-benzamide
5a
- 3-(6-bromo-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-
20 yl)benzamide, **5b**
- 3-(7,8-dimethoxy-1-methyl-2-oxo-6-phenyl-2,3-dihydro-1*H*-1,4-benzodiazepin-5-
yl)benzamide, **5c**
- 3-(9-bromo-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-
yl)benzamide, **5d**
- 25 3-(7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzamide, **5e**
- 3-(7,8-dimethoxy-1-propyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzamide,
5f
- 3-(1-ethyl-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzamide, **5g**
- 3-(1-benzyl-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzamide,
30 **5h**
- ethyl{5-[3-(aminocarbonyl)phenyl]-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-
benzodiazepin-1-yl}acetate, **5i**

- 3-(7,8-dimethoxy-1,3-dimethyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzamide, **5j**
- 3-[3-(3,4-dichlorobenzyl)-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl]benzamide, **5k**
- 5 3-(8-methoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzamide, **5l**
- 3-(7,8-dimethoxy-1-methyl-2-oxo-9-phenyl-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzamide, **5m**
- 3-(6,8-dimethoxy-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzamide, **5n**
- 3-(6,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzamide,
- 10 **5o**
- tert*-butyl-3-[3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)phenyl]propynylcarbamate, **6a**
- 7,8-dimethoxy-5-(3'-hex-1-ynylphenyl)-1-*N*-methyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **6b**
- 15 7,8-dimethoxy-1-methyl-5-[3-(3-piperidin-1-ylprop-1-ynyl)phenyl]-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **6c**
- 6-[3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)phenyl]hex-5-ynenitrile, **6d**
- 7,8-dimethoxy-5-(3'-hexylphenyl)-1-*N*-methyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-
- 20 one, **6e**
- 5-[3-(3-aminopropyl)phenyl]-7,8-dimethoxy-1-methyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one trifluoroacetate, **6h**
- 6-[3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)phenyl]hexanamide, **6i**
- 25 5-(4'-chloro-1,1'-biphenyl-3-yl)-7,8-dimethoxy-1-methyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **6j**
- 5-[3-(benzyloxy)prop-1-ynyl]phenyl]-1-ethyl-7,8-dimethoxy-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **6k**
- 3'-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)-1,1'-biphenyl-3-carbonitrile, **6l**
- 3'-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)-1,1'-biphenyl-4-carbonitrile, **6m**

- 3'-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)-1,1'-biphenyl-4-carboxamide, **6n**
- 3'-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)-1,1'-biphenyl-3-carboxamide, **6o**
- 5 3-[3-(3,4-dichlorobenzyl)-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl]benzonitrile, **7b**
- 7,8-dimethoxy-1,3-dimethyl-5-(3-trifluoromethylphenyl)-1,3-dihydro-2H-1,4-benzodiazepin-2-one, **7c**
- 3-(7,8-dimethoxy-1,3-dimethyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzonitrile, **7d**
- 5-[3-(aminomethyl)phenyl]-7,8-dimethoxy-1-methyl-1,3-dihydro-2H-1,4-benzodiazepin-2-one, **8a**
- N-[3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzyl]acetamide, **8b**
- 15 3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)thiobenzamide, **9a**
- 7,8-dimethoxy-1-methyl-5-[3-(4-phenyl-1,3-thiazol-2-yl)phenyl]-1,3-dihydro-2H-1,4-benzodiazepin-2-one, **9b**
- 5-(3-cyanophenyl)-7,8-dimethoxy-1,3-dihydro-2H-1,4-benzodiazepin-2-thione, **10d**
- 20 3-(8,9-dimethoxy-4H-imidazo[1,2-a][1,4]benzodiazepin-6-yl)benzonitrile, **11a**
- 3-(8,9-dimethoxy-4H-imidazo[1,2-a][1,4]benzodiazepin-6-yl)benzamide, **11b**
- 3-(7,8-dimethoxy-2-methylamino-1,3-dihydro-3H-1,4-benzodiazepin-5-yl)benzonitrile, **12a**
- 7,8-dimethoxy-1-methyl-5-(3-pyridyl)-1,3-dihydro-1,4-benzodiazepin-2-one, **17b**
- 25 7,8-dimethoxy-1-methyl-5-(3-nitrophenyl)-1,3-dihydro-1,4-benzodiazepin-2-one, **17c**
- 5-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)-2-benzonitrile, **17d**
- 5-(3-acetylphenyl)-7,8-dimethoxy-1-methyl-1,3-dihydro-1,4-benzodiazepin-2-one, **17e**
- 5-(4-isoquinolinyl)-7,8-dimethoxy-1-methyl-1,3-dihydro-1,4-benzodiazepin-2-one, **17f**
- 30 7,8-dimethoxy-5-(3-hydroxymethylphenyl)-1-methyl-3-propyl-1,3-dihydro-2H-1,4-benzodiazepin-2-one, **17h**
- 5-(3-aminophenyl)-7,8-dimethoxy-1-methyl-1,3-dihydro-2H-1,4-benzodiazepin-2-one, **17i**

- 5-(3,4-dichlorophenyl)-7,8-dimethoxy-1-methyl-1,3-dihydro-1,4-benzodiazepin-2-one,
17j
- 7,8-dimethoxy-1-methyl-5-(3-methylphenyl)-1,3-dihydro-1,4-benzodiazepin-2-one, **17k**.
- 5-(3-formylphenyl)-7,8-dimethoxy-1-methyl-1,3-dihydro-1,4-benzodiazepin-2-one, **17l**
- 5-[3-(benzylaminomethyl)phenyl]-7,8-dimethoxy-1-methyl-1,3-dihydro-2H-1,4-benzodiazepin-2-one hydrochloride, **17m**
- N-[3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)phenyl]acetamide, **17n**
- 7,8-dimethoxy-1-methyl-5-(3,4-methylenedioxyphenyl)-1,3-dihydro-2H-1,4-benzodiazepin-2-one, **17o**
- 3-(7-hydroxy-8-methoxy-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzonitrile,
22b
- 3-(6-bromo-7-hydroxy-8-methoxy-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzonitrile, **23b**
- 3-(9-bromo-8-hydroxy-7-methoxy-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzonitrile, **23d**
- 3-(6-bromo-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzonitrile, **24b**
- 3-(7,8-dimethoxy-1-methyl-2-oxo-6-phenyl-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzonitrile, **25b**
- 3-(7,8-dimethoxy-1-methyl-2-oxo-9-phenyl-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzonitrile, **25a**
- tert*-butyl-3-[5-(cyanophenyl)-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-9-yl)phenyl]prop-2-ynylcarbamate, **25c**
- methyl(2E)-3-[5-(cyanophenyl)-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-9-yl)phenyl]acrylate, **25d**
- tert*-butyl-3-[5-(cyanophenyl)-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-6-yl)phenyl]prop-2-ynylcarbamate, **25e**
- [9-(3-aminoethyl)-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl]benzonitrile, **25f**
- [6-(3-aminoethyl)-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl]benzonitrile, **25g**
- 3-(8-methoxy-2-oxo-2,3-dihydro-1H-1,4-benzodiazepin-5-yl)benzonitrile, **28a**

- 3-(6-methoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile, **28b**
 3-(7-methoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile, **28c**
 6-methoxy-5-phenyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **28d**
 7-methoxy-5-phenyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **28e**
- 5 9-bromo-7,8-dimethoxy-5-phenyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **28f**
 3-(6,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile, **28g**
 3-(7-bromo-6,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile,
28h
 3-(8-methoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile, **29a**
- 10 3-(6,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile,
29b
 3-(7-bromo-6,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-
 yl)benzonitrile, **29c**
 3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)methyl
15 benzoate, **34a**
 3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzoic acid,
35a
 3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)N-
 isopropylbenzamide, **36a**
- 20 N-benzyl-3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)
 benzamide, **36b**
 N-(6-amino-6-oxohexyl)-3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-
 benzodiazepin-5-yl)benzamide, **36c**
 3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)-N,N-
25 dimethylbenzamide **36d**
 5-{3-[{(4-benzylpyperazin-1-yl)carbonyl]phenyl}7,8-dimethoxy-1-methyl-2-oxo-2,3-
 dihydro-1*H*-1,4-benzodiazepin-2-one, **36e**
 3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)-N-(3-
 phenylpropyl)benzamide, **36f**.
- 30 20. Compounds selected from the following compounds :
 3-(1-benzyl-7,8-dimethoxy-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzonitrile,
4m

- 7,8-dimethoxy-1-methyl-[5-(3-trifluoromethyl)phenyl]-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **4p**
- 3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzamide, **5a**
- 5 3-(6-bromo-7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)benzamide, **5b**
- tert*-butyl-3-[3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)phenyl]propynylcarbamate, **6a**
- 7,8-dimethoxy-5-(3'-hex-1-ynylphenyl)-1-*N*-methyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **6b**
- 10 6-[3-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)phenyl]hex-5-ynenitrile, **6d**
- 7,8-dimethoxy-5-(3'-hexylphenyl)-1-*N*-methyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **6e**
- 15 5-(4'-chloro-1,1'-biphenyl-3-yl)-7,8-dimethoxy-1-methyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **6j**
- 3'-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)-1,1'-biphenyl-4-carbonitrile, **6m**
- 3'-(7,8-dimethoxy-1-methyl-2-oxo-2,3-dihydro-1*H*-1,4-benzodiazepin-5-yl)-1,1'-biphenyl-4-carboxamide, **6n**
- 20 3-(3,4-dichlorobenzyl)-1-ethyl-7,8-dimethoxy-5-phenyl-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **7a**
- 7,8-dimethoxy-1-methyl-5-[3-(4-phenyl-1,3-thiazol-2-yl)phenyl]-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one, **9b**
- 25 7,8-dimethoxy-1-methyl-5-(3-pyridyl)-1,3-dihydro-1,4-benzodiazepin-2-one, **17b**.
21. Pharmaceutical composition comprising at least one compound such as defined in any one of claims 8 to 20 and a pharmaceutically acceptable vehicle or excipient.
- 30 22. Use of a compound such as defined in any one of claims 8 to 20 for preparing a pharmaceutical composition for treating pathologies involving the central nervous system, in particular due to a deregulation of the function of a neurotransmitter or to a deficiency in the release of a neurotransmitter.

23. Use according to the previous claim, wherein the pathology is selected in the group consisting of depression, schizophrenia, anxiety, bipolar disorder, attention deficit disorders, sleep disorders, obsessive compulsive disorder, fibromyalgia, Tourette's syndrome, pharmacodependence, epilepsy, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, multiple sclerosis, obesity and Lewy body dementia.
- 5
24. Use of a compound such as defined in any one of claims 8 to 18 for preparing a pharmaceutical composition for treating pathologies involving the peripheral nervous system and peripheral organs in general, in particular pathologies of the type reduced natriuria, acute renal failure, hepatic dysfunction, acute hepatic failure, in particular due to age, and pathologies due to or involving dysfunctions of prolactin secretion, such as restless legs syndrome, rheumatismal, allergic or auto-inflammatory disorders, such as rheumatoid arthritis, rhinitis and asthma.
- 10
- 15
25. Use of a compound such as defined in any one of claims 8 to 20 for preparing a pharmaceutical composition for treating disorders of the central or peripheral nervous system, of chronic or acute nature.
- 20
26. Use of a compound such as defined in any one of claims 8 to 20 for preparing a pharmaceutical composition for treating memory impairment or cognitive impairment, in particular mild cognitive impairment.
- 25
27. Use of a compound such as defined in any one of claims 8 to 20 for preparing a pharmaceutical composition for treating neurodegenerative diseases.
28. Use of a compound such as defined in any one of claims 8 to 20 for preparing a pharmaceutical composition for treating obesity.